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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,163	06/02/2001	Steven Olson	C01-010	3061

23459 7590 11/26/2007

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EXAMINER	
ROSWELL, MICHAEL	
ART UNIT	**PAPER NUMBER**
2173	

MAIL DATE	DELIVERY MODE
11/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/873,163	OLSON ET AL.	
	Examiner	Art Unit	
	Michael Roswell	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,20,23-30 and 32-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,20,23-30 and 32-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. §.119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-17, 20, 23-30, and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer et al (US Patent 5,742,504), hereinafter Meyer, Van Dort et al (US Patent 5,537,104), hereinafter Van Dort, and Silver et al (US Patent 6,931,602), hereinafter Silver. Further evidenced by Matrix Vision (http://www.matrix-vision.com/news/print.php?ProductID=10&lang=en).

Regarding claim 1, Meyer teaches a machine vision system having a plurality of vision processors (VPs), each being on a respective VP computing platform (taught as the connection of a plurality of digital cameras to a machine vision system, at col. 4, lines 26-28; Meyer also allows for the use of various vision processors and frame grabbers at col. 2, lines 60-61), at least one machine vision user interface (UI) being on a machine vision UI computing platform (taught as the use of a Visual Basic toolbox presented to the user on a machine separate from the VPs for allowing the user control and selective communication with the multiple VPs in the machine vision system and for the viewing of live and still images from those VPs, at col. 4, lines 54-63, and col. 5, lines 4-5 and 15-20). Meyer also teaches a link function enabling a user to configure any second VP using the machine vision UI (taught as the camera control of col. 5, lines 57-67), and for establishing communication between a second VP in the machine vision system and the machine vision UI (taught as the linking of a camera to a Camera control, at col. 6, lines 10-16). Meyer further teaches enabling communication via the network established by

the link function enabling a continually updated image display on the at least one machine vision UI representing a current state of a second VP in the machine vision system (taught as the display of live images, at col. 6, lines 10-18). Matrix Vision teaches the use of digital cameras similar to those used by Meyer, with the digital cameras incorporating processor power for the purpose of integrated processing.

Meyer fails to explicitly teach providing a first VP with a link function, the link function being a control function executable by the first VP, and executing the link function so as to issue instructions from the first VP to the UI to establish communication with a second VP.

Van Dort teaches a system for equipment control wherein various units are linked over a common communication channel, which the user may interact with by way of a graphic interface connected to the system. Van Dort allows for the control of audio and video equipment at col. 1, lines 21-25. Furthermore, Van Dort teaches executing a link function so as to issue instructions from a first equipment unit to a UI to establish communication with a second equipment unit (taught as the use of an actuator connected to equipment in the system, wherein a change of state in the actuator sends a signal out to other equipment units, which may change their state in a way contained by the signal, at col. 5, lines 55-64). Furthermore, the graphic interface of Van Dort may be used to generate "mark" and "link" signals between devices, as shown at col. 10, lines 24-28.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Meyer and Van Dort before him at the time the invention was made to modify the machine vision system of Meyer to include the equipment message transmission of Van Dort in order to obtain a machine vision system wherein VPs may send link functions capable of changing the state of other VPs.

One would be motivated to make such a combination for the advantage of flexible configuration for interactions between different pieces of equipment in a system. See Van Dort, col. 1, lines 15-18.

However, Meyer and Van Dort fail to explicitly teach the communication of the plurality of VPs and the UI over a network. Silver teaches a method for the control of machine vision tools similar to that of Meyer and Van Dort. Furthermore, Silver teaches the communication of a plurality of VPs and a UI over a network, at col. 2, line 50 through col. 3, line 15.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Meyer, Van Dort, and Silver before him to modify the machine vision system of Meyer and Van Dort to include the networked communication of Silver. One would have been motivated to make such a combination for the advantage of increased accessibility to multiple vision processor systems. See Silver, col. 1, lines 40-46.

Regarding claim 2, Van Dort teaches a control function having a plurality of parameters, including an identifier of a second VP, taught as the use of an event table enabling response to a multitude of events, and destination addresses in the table to facilitate communication between devices, at col. 6, lines 43-53.

Regarding claim 3, Meyer teaches clicking on a graphical representation of the link function displayed by the machine vision UI, taught as the manipulation of control icons, taught at col. 6, lines 13-17.

Regarding claims 4, 25, and 28, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the graphical representation of Meyer to

include selectable underlined text strings. Applicant has not disclosed that underlined text strings provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the iconic representations of Meyer because both graphical representations involve "point and click" functionality, and produce the same end result.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Meyer and Van Dort to obtain the invention as specified in claims 4, 25, and 28.

Regarding claim 5, Van Dort teaches a control function having a plurality of parameters, including an identifier of a second VP, taught as the use of an event table enabling response to a multitude of events, and destination addresses in the table to facilitate communication between devices, at col. 6, lines 43-53.

Regarding claims 6 and 7, Meyer teaches clicking on a graphical representation of the link function displayed by the machine vision UI to initiate execution of the link function, taught as the manipulation of control icons, taught at col. 6, lines 13-17.

Regarding claims 8 and 9, check boxes and radio buttons in user interfaces are extremely well known in the art, being present in simple java applets up to more complex applications. Therefore, it would have been obvious to one of ordinary skill in the art to include check boxes and radio buttons in a machine vision user interface.

Regarding claims 10-12, Van Dort teaches executing a link function in response to an external event, taught as the execution of a link function in response to events such as a person

turning a knob, or temperature reaching a certain value, which may certainly be related in an industrial process, at col. 6, lines 41-43.

Regarding claim 13, the link function of Van Dort is inherently initiated by a programmatic decision, as parameters in the event table of col. 6, lines 37-53 must be at certain values before the link function is executed.

Regarding claim 14, Meyer teaches clicking on a graphical representation of the link function displayed by the machine vision UI to initiate execution of the link function, taught as the manipulation of control icons, taught at col. 6, lines 13-17.

Regarding claim 15, the link function of Van Dort is inherently included in a function execution sequence of a VP each time it is executed.

Regarding claim 16, the camera control function of Meyer allows for the control of one camera, and therefore must close communication with a previously controlled camera. See Meyer, col. 5, lines 57-67 and col. 6, lines 1-20.

Regarding claim 17, Meyer teaches the display of live images on a machine vision UI provided by a camera, which may be a first or second VP, taught as the display of live images, at col. 6, lines 10-18.

Regarding claim 20, Meyer teaches a machine vision system having a plurality of vision processors (VPs), each being on a respective VP computing platform (taught as the connection

of a plurality of digital cameras to a machine vision system, at col. 4, lines 26-28; Meyer also allows for the use of various vision processors and frame grabbers at col. 2, lines 60-61), at least one machine vision user interface (UI) being on a machine vision UI computing platform (taught as the use of a Visual Basic toolbox presented to the user on a machine separate from the VPs for allowing the user control and selective communication with the multiple VPs in the machine vision system and for the viewing of live and still images from those VPs, at col. 4, lines 54-63, and col. 5, lines 4-5 and 15-20). Matrix Vision teaches the use of digital cameras similar to those used by Meyer, with the digital cameras incorporating processor power for the purpose of integrated processing.

Meyer fails to explicitly teach executing the link function so as to issue instructions from the first VP to the machine vision UI to establish communication with a second VP.

Van Dort teaches a system for equipment control wherein various units are linked over a common communication channel, which the user may interact with by way of a graphic interface connected to the system. Van Dort allows for the control of audio and video equipment at col. 1, lines 21-25. Furthermore, Van Dort teaches executing a link function so as to issue instructions from a first equipment unit to a UI to establish communication with a second equipment unit (taught as the use of an actuator connected to equipment in the system, wherein a change of state in the actuator sends a signal out to other equipment units, which may change their state in a way contained by the signal, at col. 5, lines 55-64). Furthermore, the graphic interface of Van Dort may be used to generate "mark" and "link" signals between devices, as shown at col. 10, lines 24-28.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Meyer and Van Dort before him at the time the invention was made to modify the machine vision system of Meyer to include the equipment message transmission of Van Dort in

order to obtain a machine vision system wherein VPs may send link functions capable of changing the state of other VPs.

One would be motivated to make such a combination for the advantage of flexible configuration for interactions between different pieces of equipment in a system. See Van Dort, col. 1, lines 15-18.

However, Meyer and Van Dort fail to explicitly teach the communication of the plurality of VPs and the UI over a network. Silver teaches a method for the control of machine vision tools similar to that of Meyer and Van Dort. Furthermore, Silver teaches the communication of a plurality of VPs and a UI over a network, at col. 2, line 50 through col. 3, line 15.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Meyer, Van Dort, and Silver before him to modify the machine vision system of Meyer and Van Dort to include the networked communication of Silver. One would have been motivated to make such a combination for the advantage of increased accessibility to multiple vision processor systems. See Silver, col. 1, lines 40-46.

Regarding claims 23-24, Meyer teaches clicking on a graphical representation of the link function displayed by the machine vision UI to initiate execution of the link function, taught as the manipulation of control icons, taught at col. 6, lines 13-17.

Regarding claim 26, Meyer and Van Dort have been shown *supra* to teach a graphical representation being adapted to respond to user action so as to cause a first VP to instruct a UI to establish communication with a second VP in the machine vision system, the communication enabling a continually updated image display on the UI representing a current state of the

second VP, and enabling a user to configure the second VP using the at least one UI. See Meyer, col. 4, lines 54-63, and col. 5, lines 4-5 and 15-20 and Van Dort, col. 5, lines 55-64.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the graphical representation into a spreadsheet. Applicant has not disclosed that the incorporation of the graphical representation into a spreadsheet provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the toolbar of Meyer because a toolbar and a spreadsheet with a graphical representation included would have similar column and row structure, and similar "point and click" functionality.

Therefore, it would have been obvious to one of ordinary skill in the art to modify Meyer and Van Dort to obtain the invention as specified in claim 26.

Furthermore, the devices of Meyer and Van Dort communicate over a network due to their connection to the bus **26** taught at col. 4, lines 29-30. Bus networks (a configuration for a Local Area Network wherein all nodes are connected to a main communications line [bus]) are well known in the art, and allow for the inclusion of external devices into a system such as that of Fig. 2 of Meyer.

Regarding claim 27, the camera control function of Meyer allows for the control of one camera, and therefore must close communication with a previously controlled camera. See Meyer, col. 5, lines 57-67 and col. 6, lines 1-20.

Regarding claim 29, it can be seen in Figs. 4 and 6 of Meyer that the graphical representation for controlling a VP is an iconic representation.

Regarding claim 30, Meyer teaches a machine vision system having a plurality of vision processors (VPs), each being on a respective VP computing platform (taught as the connection of a plurality of digital cameras to a machine vision system, at col. 4, lines 26-28; Meyer also allows for the use of various vision processors and frame grabbers at col. 2, lines 60-61), at least one machine vision user interface (UI) being on a machine vision UI computing platform (taught as the use of a Visual Basic toolbox presented to the user on a machine separate from the VPs for allowing the user control and selective communication with the multiple VPs in the machine vision system and for the viewing of live and still images from those VPs, at col. 4, lines 54-63, and col. 5, lines 4-5 and 15-20). Matrix Vision teaches the use of digital cameras similar to those used by Meyer, with the digital cameras incorporating processor power for the purpose of integrated processing.

Meyer fails to explicitly teach executing the link function so as to issue instructions from the first VP to the machine vision UI to establish communication with a second VP.

Van Dort teaches a system for equipment control wherein various units are linked over a common communication channel, which the user may interact with by way of a graphic interface connected to the system. Van Dort allows for the control of audio and video equipment at col. 1, lines 21-25. Furthermore, Van Dort teaches executing a link function so as to issue instructions from a first equipment unit to a UI to establish communication with a second equipment unit (taught as the use of an actuator connected to equipment in the system, wherein a change of state in the actuator sends a signal out to other equipment units, which may change their state in a way contained by the signal, at col. 5, lines 55-64). Furthermore, the graphic interface of Van Dort may be used to generate "mark" and "link" signals between devices, as shown at col. 10, lines 24-28.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Meyer and Van Dort before him at the time the invention was made to modify the machine vision system of Meyer to include the equipment message transmission of Van Dort in order to obtain a machine vision system wherein VPs may send link functions capable of changing the state of other VPs.

One would be motivated to make such a combination for the advantage of flexible configuration for interactions between different pieces of equipment in a system. See Van Dort, col. 1, lines 15-18.

However, Meyer and Van Dort fail to explicitly teach the communication of the plurality of VPs and the UI over a network. Silver teaches a method for the control of machine vision tools similar to that of Meyer and Van Dort. Furthermore, Silver teaches the communication of a plurality of VPs and a UI over a network, at col. 2, line 50 through col. 3, line 15.

Therefore, it would have been obvious to one of ordinary skill in the art, having the teachings of Meyer, Van Dort, and Silver before him to modify the machine vision system of Meyer and Van Dort to include the networked communication of Silver. One would have been motivated to make such a combination for the advantage of increased accessibility to multiple vision processor systems. See Silver, col. 1, lines 40-46.

Regarding claims 33-34, Meyer teaches user action being a mouse click upon a graphical representation, taught as the use of a Visual Basic toolbox presented to the user on a machine separate from the VPs for allowing the user control and selective communication with the multiple VPs in the machine vision system and for the viewing of live and still images from those VPs, at col. 4, lines 54-63, and col. 5, lines 4-5 and 15-20. Furthermore, the use of underlined text strings as a user manipulable graphical entity (i.e. linking from one web page to

another) is notoriously well known in the art, and would have been obvious to substitute in place of the graphical representation stated above.

Claims 22 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer, Van Dort, Silver and Blowers et al (US Patent 6,298,474), hereinafter Blowers. Further evidenced by Matrix Vision (http://www.matrix-vision.com/news/print.php?ProductID=10&lang=en).

Meyer, Van Dort and Silver have been shown *supra* to teach a graphical representation being adapted to respond to user action so as to cause a first VP on a first VP computing platform to instruct a machine vision UI on a machine vision UI computing platform to establish communication with a second VP on a second VP computing platform, the communication enabling a continually updated image display on the machine vision UI representing the current state of the second VP, and enabling a user to configure the second VP using the machine vision UI.

Meyer, Van Dort and Silver fail to explicitly teach a network supporting TCP/IP protocol.

Blowers teaches the use of a network for vision processor/user interface communication (Column 9, Lines 26-28), where the network communicates using TCP/IP protocol (Column 6, Lines 43-45).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to modify the teachings of Meyer, Van Dort and Silver with those of Blowers to obtain the machine vision system described above by Meyer, Van Dort and Silver that communicates over a network using TCP/IP network protocol.

Motivation for such a combination is given by Blowers, who states the inclusion of such configuration: "there is illustrated schematically a machine vision system generally indicated at **20** generally of the type which can be supported by the method and system of the present invention" (Column 7, Lines 40-43).

Response to Arguments

Applicant's arguments filed 14 September 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's arguments of pages 2-4 of the remarks, that Meyer fails to teach a plurality of Vision Processors (VPs), the examiner respectfully disagrees. The examiner has included the Matrix Vision reference to illustrate that at the time of applicant's invention, digital cameras capable of image processing and thus acting as VPs were known in the art. Meyer teaches the use of various digital cameras in the disclosed vision system, at col. 4, lines 26-28. The examiner submits that the Matrix Vision camera (having suitable processing power) is one of many digital camera options available to a user of Meyer's system prior to Applicant's invention.

As to Applicant's assertion that the Matrix Vision reference fails to qualify as prior art because the reference "is **simply a document describing a product** that may or may not have existed more than one year prior to applicants' filing date". The examiner reminds Applicant of the qualifications of a reference under 35 USC 102(b):

> (b) the invention was patented or **described in a printed publication in this or a foreign country** or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The fact that the Matrix Vision reference is a document describing a product, as argued by Applicant, is precisely the reason why the reference qualifies as prior art under 35 USC 102(b).

Applicant argues on pages 3-4 that Meyer and Matrix Vision fail to teach "a plurality of [VPs], each VP being on a respective VP computing platform and a machine vision UI being on a machine vision UI computing platform", further stating, "there is no teaching in either reference of the details of a system having a plurality of VPs in combination with a machine vision UI computing platform. The examiner refers Applicant to the rejection of the claims above for such teachings:

> Meyer teaches a machine vision system having a plurality of vision processors (VPs), each being on a respective VP computing platform (taught as the connection of a plurality of digital cameras to a machine vision system, at col. 4, lines 26-28; Meyer also allows for the use of various vision processors and frame grabbers at col. 2, lines 60-61), at least one machine vision user interface (UI) being on a machine vision UI computing platform (taught as the use of a Visual Basic toolbox presented to the user on a machine separate from the VPs for allowing the user control and selective communication with the multiple VPs in the machine vision system and for the viewing of live and still images from those VPs, at col. 4, lines 54-63, and col. 5, lines 4-5 and 15-20).

In response to applicant's argument that Van Dort is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both are related to systems for equipment control wherein various units are linked over a common communication channel, which the user may interact with by way of a graphic interface connected to the system. Further assertions of hindsight reasoning are deemed responded to above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Roswell whose telephone number is (571) 272-4055. The examiner can normally be reached on 8:30 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael Roswell
11/19/2007

TADESSE HAILU
PRIMARY EXAMINER